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Part I describes a general outline for producing long range development plans for the Hawaii Community College System. Long-range planning is defined and discussed in terms of basic elements of academic requirements, quality of campus, space requirements, environmental factors, administrative factors, and adjustment factors of the general plans. Development planning is discussed in terms of time, location, and capacity. Physical requirements discussions concern land use, land value, population density, traffic, intra-campus characteristics, and campus circulation. Aesthetic standards and procedures for cost estimating are also outlined. Part II describes a master plan for consultant services and defines the purpose and function of the consultants. Consultants responsibilities in long-range development planning include review, collection, and analysis of existing data about the master plan, city zoning ordinances, health regulations, map preparation, survey and analysis of physical conditions, land use, population distribution, topology, cost, landscape, utilities, and the preparation of drawings for presentation of the developmental plans to the community college system. (HH)

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GENERAL GUIDE

FOR

COMMUNITY COLLEGE SYSTEM PHYSICAL PLANNING

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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PART I

PHYSICAL PLANNING FOR COMMUNITY COLLEGE SYSTEM

PHYSICAL PLANNING FOR COMMUNITY COLLEGE SYSTEM

1. General

The goal of the physical planning activities of the Community College System is to complete the required physical facilities in accordance with the time schedule and educational philosophy which are determined by the administration of the University of Hawaii.

The establishment of this type of facility on a statewide scale requires a great deal of study and coordination through all phases of planning, including feasibility studies and educational development plans.

The master plan for the Community College System involved the following major stages:

A. Feasibility Study

This study was completed by the community college research staff in 1963. It provides a substantial justification for the establishment of the system.

B. Educational Development Planning

A general outline of this phase with some detailed suggestions was presented in a 1964 report entitled "Curriculum Development for Hawaii's Community Colleges with Emphasis on Occupational Education."

What remains to be done is a more comprehensive plan for each campus in which the following are explicitly stated:

1. Educational philosophy and objectives
2. Types of programs and curriculums
3. Projected enrollments in each program
4. Projected campus organization and staffing needs

These then can lead to the writing of educational specifications.

C. Physical Development Planning

This stage is the basic concern of the physical planning staff.

It is divided into two major activities since the physical development of the system has to satisfy the two complementary conditions which are:

1. Establishment of a long-range physical plan which will enable the development of the campus in an orderly and desirable fashion.

2. Preparation of a development plan to complete facilities adequate to start operation of all the campuses and to accommodate the increasing number of students at given times. (i.e., incremental development)

Today the Community College System is ready to move from conception to operation. The former determines long-range physical planning, and development planning makes possible the latter. The planner is the go-between.

Our efforts at planning the Community College System are described in the following sections.

II. Long-Range Planning

A. Definition

The "Long-Range Plan for the Community College System" shall be a set of documents to establish the coordinating points of each aspect of its basic characteristics and shall not be blueprints for construction.

The function of this document shall be to determine the basic characteristics in each element of total complex and to establish a proper coordination system among these basic factors.

All of the projected needs which are concerned with enrollments, student characteristics, space needs, social and community elements shall be assumptions which are merely to estimate the required physical capabilities in proper phasing and to provide basic information to the administrator for his policy decision.

B. Basic Elements to be Coordinated

Based upon the planning conception above, the elements involved in the Community College System long-range planning are as follows:

1. Academic Requirements

   The planning of the physical plant of each campus shall be cognizant of changing needs due to advanced technology in instruction and/or the ever increasing number of students in a long period of time.

2. Quality of Campus

   Despite the differences in programs and enrollment sizes, each campus should provide an atmosphere conducive to learning. Buildings and academic and related facilities should uniformly be of good quality.

3. Space Requirements

   It shall provide basic justifications for each quantitative requirement of the physical plant of each campus in phasing and establish the designing capacity of each campus based upon enrollment projections and trends in student characteristics.

4. Environmental Factors

It shall describe the characteristics of each campus development as an institutional establishment and a community generator in the cultural aspects. In addition, all the influences in the physical development pattern of the surrounding areas shall be analyzed, especially land use patterns, traffic patterns, and other social and economic aspects.

5. Administrative Factors

The making of policy is a primary administrative activity. The long-range plan shall supply the rationale to assist the administration in making decisions for operation, capital outlay request and scheduling, including general budgeting related to physical development.

6. Adjustment of Plan

Since the community colleges are not yet in operation, it is impossible to project any future trends in physical plant requirements.

The physical plant, which will be recommended in this planning stage, is based upon what seems to be the most reasonable assumptions.

Therefore, the long-range plan shall provide standard methodology to adjust its objectives when the behavior of the system is diverted from the direction based on previous assumptions.

The major elements in this change may be

a. administrative decisions as to programs and admission requirements, including the possibility of "diversion" from the main campus;
b. community reaction;
c. needs and desires of students;
d. drastic changes in general population distribution; and
e. economic trends.

However, if the basic educational philosophy is changed, the plan will be beyond adjustment, and a new plan shall be considered.

The adjustment shall be recommended to be executed in proper intervals based on the analysis of:

Enrollment projections	-	5 years
Student characteristics	-	5 years
Space need standards	-	5 years
Influential factors	-	10 years

7. Coordination to the Development Plan

All the facts and analyses are the basic designing elements for the individual development plan.

The result of the study and its adjustment shall be immediately analyzed and superimposed onto the development plan; and, if necessary, the development plan shall be completely re-examined if drastic changes appear in the basic assumptions of the long-range plan.

8. Recommended Time of Performance

The long-range plan will be developed in three phases:

a. The definition of basic assumptions
b. The accumulation of all data annually for three years in each element
c. The analysis and designing of the physical plant in the long-range program.

The tentative plan should be completed within a period of 18 months, including all suggested coordinating systems based on the basic assumptions.

This plan should be finalized following the research, as indicated by a, b, and c, and completed immediately after those results of the analyses are available.

III. Development Planning

A. Definition

The development plan shall be defined as a set of documents and drawings which establish:

1. The basic physical elements by translating the instructional program and the projected demand for all the facilities.

2. The discipline to the physical layout by defining the proper relationships between different functions internally as well as to the surroundings.

3. The aesthetic control on each project design.

4. The estimated cost of the developments in proper increments in order to direct the construction of all the capital improvements on the campus.

The study shall be executed on a fixed point analysis, and a minimum number of assumptions shall be used in every stage of the study. Therefore, as of today, the planner shall utilize all available information from the feasibility study of 1963 and the educational specifications of 1964. Both sets of information will be superimposed in order to arrive at the existing physical needs and the probably demand within five years.

B. Basic Elements

The development plan basically differs from the long-range plan in the characteristics of the study. The long-range plan is based upon a continuous effort of research and analysis. The most important function of the development plan is a blueprint of the construction for campus facilities whose need has been indicated by the long-range plan. In other words, it is a spot study, and the results of the study shall be a solution to the problems posed by the long-range plan. Therefore, the development plan, which the physical planner of the system proposes today, merely depends upon the social, educational, political and physical conditions of each campus as they exist in 1965.

1. Conditions in Development Planning

a. Time

An examination of past administrative, political, and educational factors indicate that the system is obligated to begin community college operations on a full scale in various locations of the State on the following time schedule:

1)	Maui Community College	September 1967
2)	Leeward Community College	" 1968
3)	Honolulu Community College	" 1968
4)	Kapiolani Community College	" 1968
5)	Kauai Community College	" 1968

In order to maintain this schedule, the development plan should be completed with the following deadlines to enable designing, construction and administrative coordination:

1)	Kauai Site Selection Study	October 1965
2)	Maui Development Plan	December 1965
3)	Kapiolani Site Selection Study	December 1965
4)	Leeward Oahu Development Plan	May 1966
5)	Honolulu Development Plan	" 1966
6)	Kapiolani Development Plan	" 1966
7)	Kauai Development Plan	July 1966

b. Location

Three community college sites have been determined at the following locations and in the specified sizes:

1) Maui -- Existing Maui Technical School site and 45 acres of adjacent land. Total of 57 acres ±.

2) Leeward Oahu -- Federal surplus property located on the south side of the Ewa junction of Kamehameha Highway, identified as U. S. Civil No. 490. Total of 40 acres ± with possible expansion in both Ewa and Honolulu directions.

3) Honolulu -- Existing Honolulu Technical School site with possible expansion. Total of 20 acres ±.

4) Kapiolani -- Site selection study will determine the final location. However, the area of search for the new location will be limited to the Waikiki side of the Honolulu Central Business District, not farther than Kapahulu Avenue and not farther mauka than the proposed Lunalilo Freeway.

5) Kauai -- Site selection will determine the final location.

c. Designing capacity

Since the system is a new type of institution, there are no materials to project the future growth pattern of student enrollments. However, it is possible to assume the probable number of students for each campus with reasonable accuracy by reviewing and re-analyzing the materials that have been presented in the feasibility study of 1963.

The tentative number of the student enrollment is projected as follows:

		1968		1973
1)	Maui	400		600
2)	Leeward Oahu	2,000		3,000
3)	Honolulu	1,500		2,500
4)	Kapiolani	2,000	(1969)	3,000
5)	Kauai	250		450

d. Tentative physical development requirements

The establishment of the basic physical requirements is an essential element to determine the size of the facilities of the institution. Existing standards of some community colleges in the nation have been examined, and the results range from 120 SF/student to 200 SF/student. The Community College System staff reviewed these figures and arrived at the following guides:

Regular instructional area	50 SF/FTE
Laboratory	40 "
Library	10 "
Administration	6 "
Physical Education Building	10 "
Student Union	6 "
Total	122 SF/FTE
Shop Building (average size)	5,000 SF/Bldg.
Parking Ratio	1 car: 1.5 students 1 car 3.0 students for Kapiolani & Honolulu
Circulation Area	10% of the total above
Building/Area Ratio	1.5

C. Controlling Elements for the Physical Development Plan

1. General influential elements

The internal texture of the campus will be influenced by the surrounding development to a great extent. Especially for the campus which will be constructed in a heavily urbanized area, the integration of the development texture of the adjacent area and the circulation pattern have much meaning to the orientation of the physical facility development. Therefore, it is necessary to investigate the intensity of the land use, land value pattern, and traffic circulation pattern.

a. Land use

Indicate all the developments by the standard classification which is set by the local agency in the limit of a 1-mile radius or more if required.

b. Land value

Indicate the state tax assessment value of 1965 in the limit of the land use survey area for the land and the improvement.

c. Density

Indicate the resident density of the area in the same area as above. This study will include types of residential units.

d. Traffic

Indicate the general traffic pattern and establish the possible first funneling point of the traffic for the proposed campus.

Analyze all probably traffic behavior between the first funneling point to the access point of the campus.

Compute all capacities of the existing circulation facilities of the same area and estimate the probable delay rate and degree of congestion in the area which may be caused by the development of the new campus.

Suggest possible channelization and/or another designing technique at the access point to produce a minimum congestion of the traffic flow.

e. Intra-campus characteristics shall be analyzed for building use. According to the function, the facilities will be classified as follows:

Instructional area -- General classrooms for transfer programs and related instruction for industrial arts.

Industrial shops -- All industrial arts practice areas except those for business and engineering programs.

Laboratory area -- All laboratories except industrial arts shop area.

Community area -- Physical Education Building, Theatre, and Student Union

Administration area -- Faculty offices and all business offices of the campus.

f. Intra-campus circulation

From the access point, establish the automobile circulation system and determine the most effective location to the automobile storage area.

Provide pedestrian circulation system with minimum conflict with the automobile circulation.

The automobile circulation shall be analyzed in four classifications:

1) faculty and staff
2) visitors
3) service
4) students

The maximum traffic flow peak will be during the 30 minutes before the first instructional hour for in-bound traffic and 30 minutes after the last instructional hour and out-bound traffic.

g. The layout of the buildings will take full consideration of the major factors above and other secondary factors such as climate, wind direction, student habits, etc.

D. Aesthetic Standard

The aesthetic value of the facilities is primarily established by the creative imagination of the architect, landscape architect or designer.

Unlike any other elements of the development plan which follows the pattern of "conception"--"justification"--"programming"--"implementation," the aesthetic element will be executed simply from his imagination to his creation.

Therefore, it is vitally important to provide fundamental conditions for imaginative stimulus of these architects or other types of designers.

However, this limit will not intend to control any designer's imagination itself, but it will only suggest a direction of his imagination in design.

These factors which may set a direction to each designer for each campus will be determined in the stage of master plan involving minimum elements as follows:

1. Effect

Total mass combination with landscape or other accessory items will provide an environment of high-grade educational institute which creates a part of spiritual core of student activities on campus.

In addition, it will be a pride to the community and the student to remember for a long period of his life.

2. Basic limitations

a. The architectural vocabulary will be determined with the selection of the proper type of individual material in order to provide consistency in the general texture.

b. Standard designing the details for building will be determined in order to carry out a consistent formation of texture.

c. Within these limits, the architect or designer will be allowed to create space and building patterns.

E. Cost Estimating

Any development plan has to be presented with a cost factor in order to regulate the capital outlay of the development. All facility costs will be estimated in preliminary form, and this will be approved by the staff of the community college. The cost factor will be presented in incremental bases as the planner believes to be the best and most orderly pattern.

IV. Conclusion

The two sets of documents, the long-range plan and the development plan, enable the Community College System to administer the physical development in the most complete form. The former is to guide operational decisions, and the latter will regulate the actual development. However, if these two studies are not coordinated properly when assumptions differ and the projections do not coincide, these plans then are unrealistic. Therefore, it is imperative that these plans be carefully coordinated.

PART II

OBJECTIVES AND REQUIREMENTS

MASTER DEVELOPMENT PLAN FOR CONSULTANT SERVICES

MASTER DEVELOPMENT PLAN FOR CONSULTANT SERVICES

OBJECTIVES:

The objectives of the Master Development Plan shall be to provide and establish complete information and requirements for the construction plan for the physical facilities for _____ Community College. This plan shall be a guide for the design development and indicate the necessary controlling and/or informative conditions for construction planning and designing. An analysis of the surrounding conditions such as the land use pattern, general traffic circulation, condition of the urban texture, existing zoning and land use plan by the City and County agency, etc., shall be required in this study. The purpose of this analysis is to indicate the inter-relationships between the proposed campus development and the community growth pattern.

BASIC INFORMATION AND REQUIREMENTS:

The consultant shall prepare the development plan for_____ Community College campus based upon the basic requirements and assumptions furnished by the Office of the Vice President for Community College System, University of Hawaii. These basic assumptions and requirements shall include:

1. Educational Specifications

The educational specifications shall consist of three major elements that shall guide the consultant in determining the relationship, nature and size of the proposed campus facilities.

a. Instructional programs and enrollment

The Community College System shall provide information on the proposed instructional programs and projected student distributic in each instructional program.

b. Space Requirements

The Community College System shall indicate the basic space requirements for the instructional areas. However, the accessory use floor area requirements such as rest room facilities, etc., as required by any local health and building ordinances or other laws and ordinances shall be determined by the consultant. An analysis of the inter-relationship of these instructional areas shall be prepared, and the desirable functional grouping shall be indicated to the consultant.

c. Facility and equipment requirements.

A description of the proposed facilities shall be provided to the consultant. It will include the nature, size and use of the facilities. The Community College System shall also furnish an equipment list indicating equipment which is of the built-in type.

2. Existing Physical Facility Data and Base Maps

Drawings of the existing buildings available at the Office of Public Works, Department of Accounting and General Services, State of Hawaii, shall be provided without cost to the consultant. If the said agency does not have the information and it is important to the development plan, the consultant shall make a survey or investigation within the amount of compensation of the contract. The base map of the surrounding area shall be in a scale of 1"= 400' with adequate information of the topography, land parcel and development, and this map shall be prepared by the consultant as described in the scope of services. The mapping information for the campus area shall be furnished by the Community College System. It shall be 1" = 40' scale with 2' contour line intervals and containing the following information:

a. All the existing buildings

b. Existing automobile circulation facilities and parking

c. Boundary line with full descriptions

DEVELOPMENT PLANNING PROCEDURE:

The consultant shall review all the data given by the Community College System. Upon agreement of the basic planning principles, the consultant shall proceed with the study for the _____Community College Development Plan. Because of the special nature of the study, the consultant shall be associated with special consultants in campus planning and an architectural firm. The special consultants and the architectural firm shall be under the control of the principal consultant. The consultant shall submit information about these associated members for approval by the Community College System.

The study will consist of a series of major analysis stages which shall be the responsibility of the principal consultant and two designing states which shall be the responsibility of the associated consultants.

DUTIES OF THE PRINCIPAL CONSULTANT AND ASSOCIATED CONSULTANTS:

The development planning shall be completed through the joint efforts of a group of professionals. The duties of each professional consultant in the different stages of the study are indicated as follows:

A. PRINCIPAL CONSULTANT:

The principal consultant shall be responsible for all the phases of the study including the presentation and coordination with the Community College System. However, it is required to have an association with experts in the community college physical planning and an architectural firm in order to complete the study in the most desirable form. The planning study shall be prepared by the principal consultant according to the following procedure:

1. Pre-planning Corrdination and Reports

The principal consultant shall review all the requirements and information materials which shall be furnished by the Community College System. After a review of the materials, the principal consultant shall meet with the staff of the Office of the Vice-President for Community College System, University of Hawaii, and with all of the associated professional consultants in order to arrive at a firm agreement on the basic conceptions for the_____ Community College Development Plan. Upon agreement, the principal consultant shall proceed with the study in the following stages:

a. Review and collection of existing planning data

All the planning studies which have been completed in the previous five years shall be reviewed and evaluated in terms of its dependability in projection and actual implementation. These studies are:

1)

2)

3)

4)

The review and analysis of the existing county ordinances shall be made in the field of planning, health and building requirements such as:

1) Master plan of the area

2) City and County Zoning Ordinances of the area

3) Health regulations for schools

4) Building regulations

5) Fire regulations

6) All economic base studies and statistics to indicate the general growth of the planning area.

The principal consultant shall report pertinent findings to the Community College System.

b. Base Maps

Two base maps shall be prepared by the principal consultant for visual presentation of all the planning analysis and the results of the survey.

1) Vicinity map

A vicinity map shall be used for the presentation and analysis of land use, conditions of the existing urban texture, traffic circulation pattern, etc. The mapped area to be covered shall be determined upon agreement with the staff of the Community College System. The recommended specifications of this map shall be:

a) Scale: 1" = 400'

b) Topography information: 20' contour line intervals and streams

c) Textures: Highway and street R/W alignment

Utility and other easements

Major structure in the urbanized area

All parcel lines of land subdivisions

Other information required by the Community College System

2) Campus Area Map

The Community College System shall furnish information for the preparation of a reproducible map tracing by the

consultant. The consultant shall provide a recommended map with the following specifications:

a) Scale: 1" = 40'

b) Topography information: 2; contour line intervals

c) Texture: All the existing buildings

d) To be shown: Location of utility poles and manholes
Pavements and paths
Frontage road
Existing drainage system, if there is any

e) Boundary line: All azimuths and distances shall be indicated.

The request information shall be presented on hard copy cadastral form with adequate ground information for interpolation into 2' - 0" contour intervals.

c. Survey and Analysis of the Basic Information of the Physical Conditions

1) Existing utility condition

a) Drainage system

b) Water lines and appurtenances

c) Sanitary sewer and treatment plant location and capacity

d) Electric power and telephone service line (availability and capability)

e) Gas line (availability and capability)

2) Existing surface drainage condition

The consultant shall analyze the surface drainage basin area on the U.S.G.S. map and compute the maximum amount of run-off water depending upon a 50-year storm possibility.

This basic data shall be further analyzed to estimate the quantity of run-off water on the same base for the campus area to provide the basic requirements for the drainage system designing.

3) Land use pattern

By the review of the previous studies, the consultant shall indicate the land use pattern for 1957 and 1961 in the area from the record of City and County agencies. In addition a land use survey shall be conducted, and the results shall be presented on the base maps within the area agreed upon with the Community College System. The consultant shall analyze the 1957, 1961 and 1965 land use pattern and present a general trend of the land use pattern for the previous eight years. This survey and analysis shall be classified according to the standard land use classification which has been adopted by the planning agency in the _____

4) Population density distribution

The consultant shall analyze the U. S. Population Census of 1960 and indicate the distribution pattern of the residents in the area. An analysis of the population statistics by the Department of Health, State of Hawaii, in 1965 may be made to supplement the U. S. Census information, if the statistics obtained provides adequate detailed information.

5) Traffic circulation system

The consultant shall indicate the location of the intersections which will be primarily affected by the students commuting to the proposed campus site from all directions.

All the traffic circulation facilities shall be examined in the limit of the area of the affected intersections in the following order:

a) Condition of the existing facilities

b) Capacity of the existing facilities

c) Adequacy of the traffic controlling facilities at each intersection--such as traffic lights, channelization,etc.

d) Existing traffic volume and delay rate in the following period:

Volume: 12 hour total from 6:00 a.m. to 6:00 p.m.

Peak Volume Requirements:

7:30 - 8:30 a.m. with 15 minute intervals

4:00 - 5:00 p.m. " " " "

The results shall be an average of three counts of a typical week in the traffic condition at the strategic points or circulation as agreed with the Community College System.

e) The delay rate shall be computed within the limit of the above area on the major feeder route to the campus site. The time of delay survey shall be the same time as the peak volume survey. The results shall be an average of three counts for the typical week day traffic.

Through an analysis of the basic data on the student distribution and the method of commuting which shall be furnished by the Community College System, the principal consultant shall indicate the changes in the traffic characteristics in the peak hour period. The results of

the analysis shall be superimposed onto the basic conditions surveyed. All problems which may be caused by the proposed campus traffic requirements and suggestions of the physical treatment to these critical points of the traffic shall be indicated. The most desirable access points to the proposed campus shall be given and coordinated with the design by other special consultants.

6) Land value

The information on the land value is not a directly influential element. However, for future reference on the intensity of the land in the surrounding area, the principal consultant shall prepare a map to indicate the land value of the immediate vicinity based on the 1965 tax assessment value.

B. PRINCIPAL CONSULTANT, SPECIAL CONSULTANTS, ARCHITECTURAL CONSULTANT

1. Physical Development of the Campus

In this phase of the study the principal consultant and his associates shall proceed with the designing of all the physical facilities of the campus. The purpose of this designing plan is to provide all the necessary basic requirements for the individual facilities as a designing guide to the construction designing architect and engineers.

In addition, the plan shall provide complete information on the development phases, cost of construction and maintenance schedule for the Community College System to determine an operational schedule for the development of the campus. The results of this phase of the study shall show the desirable form of the campus layout and schematic designing of every facility that the consultants recommend.

The minimum requirements for this phase is as follows:

a. Topography and grading design

The principal consultant shall determine a desirable and most economical proposed grading condition for the campus with the cooperation of the special consultants. A basic grading outline shall be prepared as a guide to the construction engineering design.

b. Campus circulation and site planning

The special consultants in campus planning shall design the total campus facilities under the supervision of the principal consultant with the cooperation of the architectural consultant. The plan shall consist of:

1) Description of all the functional groupings of the facilities.
2) Circulation pattern for both automotive and pedestrian traffic with the possible consideration for bicycles.
3) Parking area for students, faculty, and visitors.
4) Layout of all the physical facilities with full consideration of the three dimensional space composition.
5) Complete landscape designing for the campus area with preliminary specifications.

This stage of the study shall be based upon the designing requirements and information furnished by the Community College System. The preliminary designing of the physical development plan shall be presented to the Community College System, and upon approval these consultants shall proceed with the final design.

The principal consultant shall complete the schematics for the grading, drainage system and all the service utilities and

shall coordinate the utility requirements with the off-site utility conditions.

The special consultants in campus planning shall finalize the plan following all the directions and in agreement with the Community College System.

The architectural consultant shall proceed with the schematic designing of each facility which shall be indicated by the physical development plan in the following order:

1) Building plan in 1/8" = 1' - 0" scale
2) Elevation (at least two sides) in 1/8" = 1' - 0" scale
3) General structural scheme.
4) Outline specification of buildings
5) All floor areas of the buildings shall be calculated, and each room size shall be summarized in groups of assignable and non-assignable areas as defined by the regulations, Higher Education Act of 1963, Title 45, Part 170, sub-part A, Section 1.

c. Incremental development schedule

The principal consultant shall prepare an incremental development schedule from the given data. In this analysis an indication of the flexibility of the plan for the future expansion which may exceed the designing capacity of 600 shall be presented.

d. Cost estimation of the development

The principal consultant shall prepare all the cost factors in the development of the campus with the cooperation of the associated consultants. The estimation shall include a breakdown which precisely follows the incremental pattern for the following items:

1) General grading

a) Designing -- based on the standard percent by the D.A.G.S. State of Hawaii

b) Construction -- lump sum

2) Utilities (on-site only)

a) Designing

b) Construction -- lump sum

Drainage, sewer, water, electric line, telephone line, gas line.

3) Circulation facilities

a) Designing

b) Construction -- lump sum

Automobile circulation facilities

Parking facilities

Pedestrian circulation facilities

4) Building

Each building shall be estimated according to the breakdown of the standard application form for the Federal Higher Education Act, 1963, title 1.

5) Landscape

a) Designing

b) Construction -- lump sum

Grading, planting, irrigation system, outdoor accessories

e. Development Standards and Aesthetic Control

The principal consultant shall prepare the standards for all of the physical development with the cooperation of the associated consultants. The special consultants and the architectural

consultant shall establish the aesthetic control for campus structures and the landscaping to meet the requirements of the Community College System.

f. Recommended maintenance schedule

A maintenance schedule shall be established by the principal consultant with the cooperation of the associated consultants for the following items:

1) Landscape

2) Buildings

3) Utilities

4) Circulation

5) Drainage

The building maintenance schedule shall include the modernization planning of the existing buildings, especially the industrial art buildings.

2. Presentation

The principal consultant shall prepare two sets of full size presentation drawings for all the analysis and designing drawings. The maps shall be reduced from a reproducible form in proper size for report presentation and presented to the Community College System. All the analysis, description, tables and charts shall be a part of the narrative portion of the report and one original and three carbon copies shall be presented to the Community College System. All the materials shall be prepared without any color overlay so that it can be reproduced by single process printing.

Follow Section 4 - CONTROL AND PROGRESS OF THE WORK and Section 3 - PAYMENT of the "Standard Requirements for Consultant Service Contract," September 1962, prepared by the Department of Accounting and General Services, Division of Public Works, State of Hawaii.

CONTROL AND PROGRESS OF THE WORK

PAYMENT

OTHER DUTIES